

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-32. (Canceled)

33. (New) An interfacing device for communicating data between a dependent transmission medium and an independent transmission medium, the interfacing device comprising:

a first interfacing module, connected to the dependent transmission medium, configured to receive a data through the dependent transmission medium, determine whether or not the data is to be processed based on a home code included in the data,

wherein the first interfacing module includes a first physical layer configured to interpret a signal corresponding to the data received from the dependent transmission medium according to a first communication protocol, and a first data link layer configured to generate a data unit including at least a part of the data according to the interpreted signal; and

a second interfacing module, connected to the independent transmission medium, configured to receive the data from the first interfacing module when the data is determined to be processed, and transmit the received data to the independent transmission medium,

wherein the second interfacing module includes a second data link layer configured to receive the data unit from the first interfacing module, and a second physical layer configured to transmit a signal corresponding to the data unit to the independent transmission medium according to a second communication protocol different from the first communication protocol.

34. (New) The interfacing device of claim 33, wherein the first interfacing module further comprises a network layer configured to receive the data unit from the first data link layer and generate a protocol data unit (NPDU) including a NPDU header and a NPDU tailor, the NPDU comprising an address of the interface module, an destination address, and a kind of a packet.

35. (New) A method for communicating data between a dependent transmission medium and an independent transmission medium, the method being performed by at least one electric device including a first interfacing module and a second interfacing module, wherein the first interfacing module is connected to the dependent transmission medium and the second interfacing module is connected to the independent transmission medium, and the method comprising:

performing, by the first interfacing module, a receiving operation of receiving a data through the dependent transmission medium,

wherein the receiving operation comprises interpreting, via a first physical layer of the first interfacing module, a signal corresponding to the data received from the dependent transmission medium according to a first communication protocol, and generating, via a first data link layer of the first interfacing module, a data unit including at least a part of the data according to the interpreted signal;

determining, by the first interfacing module, whether or not the data is to be processed based on a home code included in the data;

transmitting, via the first interfacing module, the data to the second interfacing module when the data is determined to be processed; and

performing, via the second interfacing module, a transmitting operation of transmitting the data to the independent transmission medium,

wherein the transmitting operation comprises receiving, via a second data link layer, the data unit from the first interfacing module, and transmitting a signal corresponding to the data unit to the independent transmission medium according to a second communication protocol different from the first communication protocol.

36. (New) The method of claim 35, wherein the data is transmitted from the first interfacing module to the second interfacing module through a network layer configured to receive the data unit from the first data link layer and generate a protocol data unit (NPDU) including a NPDU header and a NPDU tailer, the NPDU comprising an address of the interface module, an destination address, and a kind of a packet.